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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,438	06/08/2001	Christopher Gordon Gervase Turner	13275-002001/ R Guthrie/t	1536
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			EXAMINER BROWN, VERNAL U	
			ART UNIT 2635	PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

4/11

Office Action Summary

Application No.

09/877,438

Applicant(s)TURNER, CHRISTOPHER
GORDON GERVASE**Examiner**

Vernal U Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1-11 and 19 is/are rejected.
- 7) ☒ Claim(s) 12-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

The application of Christopher Gordon for Sideband Diversity for Electric Identification System filed June 8, 2001 has been examined. Claims 1-20 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Troyk et al. U.S Patent 5095309.

Regarding claims 1 and 19, Troyk et al. teaches a reader (14) for an electronic radio frequency identification system also comprising a plurality of transponders to be read by the reader (col. 5 lines 30-35) and (col. 9 lines 50-53), the reader comprising:

a first recovery circuit for recovering and separating an upper sideband and a lower sideband of a modulated response signal from one of the transponders (col. 11 lines 32-35). Troyk et al. also teaches the spectral component of the signal transmitted from the transponder includes an upper sideband frequency of 201 KHz and a lower sideband frequency of 67KHz (col. 11 lines 8-12) and the lower sideband is evaluated and selected in the receiver and outputted to the comparator (col. 11 lines 32-40).

Regarding claim 7, Troyk et al. teaches an energizing signal generator (18) for energizing passive transponders (col. 5 lines 43-45, lines 49-50).

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Regarding claim 20, Troyk et al. teaches a method of reading a response signal from an electronic radio frequency transponder (col. 5 lines 30-35), the method comprising the steps of: receiving the signal (col. 11 lines 28-31); utilizing demodulating technique to recover and separate an upper and lower sideband(col. 11 lines 32-35). Troyk et al. further teaches evaluating the upper and lower sidebands and selecting the sideband based on the performance (col. 11 lines 12-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Troyk et al. U.S. Patent 5095309 in view of Stakaienburg European Patent Application 0649111.

Regarding claim 2, Troyk et al. teaches evaluating the upper and lower sideband of the response signal (col. 11 lines 32-35) but is silent on teaching evaluates the upper and lower sideband on signal to noise ratio. Stakaienburg in an art related Noise reduction in Identification System invention teaches limiting the effect of the interference signals in detecting the sidebands of a response signal in order to improve the noise to signal ratio (col. 2 lines 17-22).

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It would have been obvious to one of ordinary skill in the art to evaluate the upper and lower sideband on signal to noise ratio in Troyk et al. as evidenced by Stakaenburg because Troyk et al. suggests evaluating the upper and lower sideband of the response signal and Stakaenburg teaches improving the signal to noise ratio by limiting the effect of interference in detecting the sidebands of the response signal.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Troyk et al. U.S. Patent 5095309 in view of Stakaenburg European Patent Application 0649111 and further in view of Snodgrass et al. U.S. Patent 5608739.

Regarding claim 3, Troyk et al. in view of Stakaenburg teaches limiting the effect of interference signals in the received response sideband signal (col. 2 lines 17-22, European Patent Application 0649111) but is silent on teaching evaluating the upper and lower sideband on the minimum errors in the data decoded. Snodgrass et al. in an art related error detection and correction in a radio frequency device teaches limiting the effect of interference signals in the received response signal by using error detection method (col. 1 lines 42-54).

It would have been obvious to one of ordinary skill in the art to evaluate the upper and lower sideband on the minimum errors in the data decoded in Troyk et al. in view of Stakaenburg as evidenced by Snodgrass et al. because Troyk et al. in view of Stakaenburg suggests limiting the effect of interference signals in the received response sideband signal and Snodgrass et al. teaches limiting the effect of interference signals in the received response signal by using error detection method.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Troyk et al. U.S Patent 5095309 in view of Thomsen et al. U.S Patent 6584304.

Regarding claim 4-6, Troyk et al. teaches a recovery circuit for outputting the desired sideband frequency signal (col. 11 lines 8-12) but is silent on teaching the recovery circuit comprises an image reject mixer having a first output for the lower sideband, a second output for the upper sideband, and a switch for selecting between the first and second output. Thomsen et al. teaches a receiver having an image reject mixer for outputting signal with the different frequency component of the received signal and switches for selecting between the different outputs illustrated in figure 3 and discuss in (col. 6 lines 13-16 and col. 6 lines 22-35).

It would have been obvious to one of ordinary skill in the art for teaching the recovery circuit comprises an image reject mixer having a first output for the lower sideband, a second output for the upper sideband, and a switch for selecting between the first and second output in Troyk et al. as evidenced by Thomsen et al. because Troyk et al. suggests a recovery circuit for outputting the desired sideband frequency signal and Thomsen et al. teaches Thomsen et al. teaches a receiver having a image reject mixer for outputting signal with the different frequency component of the received signal and switches for selecting between the different outputs.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Troyk et al. U.S Patent 5095309 in view of d'Hont et al. U.S Patent 6064320.

Regarding claim 8, Troyk et al. teaches converting the signal down to baseband (col. 11 lines 32-35) but is silent on teaching the use of an image reject mixer to convert the signal down to baseband and the energizing signal generator is connected to the image reject mixer. d'Hont et al. in an art related identification system teaches an interrogator that uses an image reject mixer

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to convert the signal down to baseband (col. 6 lines 47-49) and the energizing signal generator (52) is connected to the receiver which includes the functions provided by the image reject mixer (col. 7 lines 52-65).

It would have been obvious to one of ordinary skill in the art to have an image reject mixer to convert the signal down to baseband and the energizing signal generator is connected to the image reject mixer in Troyk et al. as evidenced by d'Hont et al. because Troyk et al. suggests an interrogator converting the signal down to baseband and d'Hont et al. teaches the energizing signal generator is connected to the image reject mixer.

Regarding claim 9, Troyk et al. teaches the use of antenna in the form of coils for transmitting and receiving signals (col. 6 lines 5-11) but is silent on teaching a single antenna for transmitting the energizing signal and for receiving the response signal. d'Hont et al. in an art related identification system teaches an interrogator having a single antenna (18) for transmitting the energizing signal and for receiving the response signal (col. 7 lines 21-22).

It would have been obvious to one of ordinary skill in the art to have a single antenna for transmitting the energizing signal and for receiving the response signal in Troyk et al. as evidenced by d'Hont et al. because Troyk et al. suggests the use of antenna in the form of coils for transmitting and receiving signals and d'Hont et al. suggests an interrogator having a single antenna for transmitting the energizing signal and for receiving the response signal.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Troyk et al. U.S. Patent 5095309 in view of d'Hont et al. U.S. Patent 6064320 and further in view of Marumoto et al. U.S. Patent 6232919.

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Regarding claim 10, Troyk et al. in view of d'Hont et al. the use of antenna in the form of coils for transmitting and receiving signals (col. 6 lines 5-11) but is silent on teaching the antenna is connected to the energizing signal generator by a strip line. Marumoto et al. in an art related antenna apparatus teaches the use of a strip line as a connecting means (col. 4 lines 53-55).

It would have been obvious to one of ordinary skill in the art for the antenna to be connected to the energizing signal generator by a strip line in Troyk et al. in view of d'Hont et al. as evidenced by Marumoto et al. because Troyk et al. in view of d'Hont et al. suggests an antenna connected to the energizing means and Marumoto et al. teaches the use of a strip line as a connecting means and one skilled in the art recognized the use of strip line as a conventional means of connecting electronic circuitry.

Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Troyk et al. U.S. Patent 5095309 in view of d'Hont et al. U.S. Patent 6064320 in view of Strietzel U.S. Patent 4556883 in view of Marumoto et al. U.S. Patent 6232919.

Regarding claim 11, Troyk et al. in view of d'Hont et al. teaches the response signal is coupled to the recovery circuit as evidenced by the reception of the response signal by the recovery circuit (col. 11 lines 32-4) but is silent on teaching the response signal is coupled to the recovery circuit by a directional coupler cooperating with the strip line. Strietzel in an art related interrogator invention teaches the use of directional coupler for receiving response signal from a transponder (col. 2 lines 43-47) but is also silent on teaching the directional coupler cooperating with the strip line. Marumoto et al. further teaches the use of a strip line as a connecting means

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and one skilled in the art recognized the use of strip line as a conventional means of connecting electronic circuitry.

It would have been obvious to one of ordinary skill in the art for the response signal to be coupled to the recovery circuit by a directional coupler cooperating with the strip line in Troyk et al. in view of d'Hont et al. as evidenced by Strietzel in view of Marumoto et al. because Troyk et al. in view of d'Hont et al. suggests the response signal is coupled to the recovery circuit as evidenced by the reception of the response signal by the recovery circuit and Strietzel teaches the use of directional coupler for receiving response signal from a transponder and Marumoto et al. further teaches the use of a strip line as a connecting means and one skilled in the art recognized the use of strip line as a conventional means of connecting electronic circuitry.

Allowable Subject Matter

Claims 12-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 12-18, the prior art of record fail to teach or suggests a reader having a second recovery circuit for recovering and separating an upper and lower sideband, directional couplers placed $\lambda/4$ and $\lambda/6$ apart, image reject mixer having a first output for the lower sideband and a second output for the upper sideband.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vernal U Brown whose telephone number is 703-305-3864. The examiner can normally be reached on M-Th, 8:30 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 703-305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.



Vernal Brown
December 11, 2003

MICHAEL HORABIK
SUPERVISORY PATENT EXAMINER
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